

751 GAAAACCAGGCGACCGTCGCCCTATACAGCTTAAAAATGCGGGGTGGCAGGGGCCCAAGCCCGGTACACCAGC
GAGAACCGCGCACCGTCGCCCTATACAGCTTGAAGATCGCGGGTGGCAGGGGCCCAAGGCCCGGTACACGAGC
751 GluAsnGlnAroThrValAlaLeuIrrSerLeuLysIleAlaGlyTrpHisGlyProLysProIrrThrSer
GluAsnGlnAroThrValAlaValIrrSerLeuLysIleAlaGlyTrpHisGlyProLeuAlaProIrrThrSer

FIGURE 1A

976 ACCCTGCTGCCCGGAGGTGTCGGACAGCAGCAGCGGACAGCAACCGGAGCTGCTCGGGAGGAGCGGAGGAG
ACCTGCTGCCCGGAGGTGTCGGACAGCAGCAGCGGACAGCAACCGGAGCTGCTCGGGAGGAGCGGAGGAG
276 ThrLeuLeuProProGluLeuSerAsnThrThrAsnAlaThrLeuProGluLeuAlaProGluAsnProGluAsn
ThrLeuLeuProProGluLeuProGluThrProAsnAlaThrLeuProGluLeuAlaProGluAsnProGluAsn
Ser

901 TCGGCCCTCTTAGAGGATCCCGCGGAGAGGTGTCTTCGAGATCCCCCAACTAGGAAATCCCGTCGATCCAG
TCGGCCCTCTTGGAGGACCCCGTGGGACAGGTGACGCGCAATCCCCCAACTAGGAAATCCCGTCGATCCAG
301 SerAlaLeuLeuGluAspProAlaGluThrValSerSerIleIleProProAsnTrpHisIleProSerIleGln
SerAlaLeuLeuGluAspProValGluThrValIleProIleIleProProAsnTrpHisIleProSerIleGln

976 GACGTCGGGCG---CACCAGGCCCCCGCCGCCCGCCGACGCAACCGGGGCTGATCATGGGCGGCTGGCGGGGAGT
GAGCGCGGACGCGCTTACCATCCCCCGGCGCCGACCAATGGCGCTGCGCGGCGGCTGGGGAGGAGT
376 ASDVal:1APro---HisHisAlaProAlaAlaProIleAsnTrpIleLeuIleTrpIleAlaGluAlaGluIleSer
ASDAlaAlaThrProTyrHisProAlaAlaThrProAsnSerTrpIleLeuIleTrpIleAlaGluIleSer

[illegible]

1126 CATCTCCCCACATCTCGGGATGACGAGACGGCCCTCTGTAACAGGCTATTGTTTAACTAGAGGAGTTCCTGGCT
CGCTCTCCCCACATCTCGGGAAGAGGACAGGCTCTCTGTAACAGGCTATTGTTTAACTAGAGGAGTTCCTGGCT
376 ArgLeuProHisIleArgHisAspHisProProSerHisGlnProLeuPheTyrStop
ArgLeuProHisIleArgHisAspHisProSerSerHisGlnProLeuPheTyrStop

..... * * * * * "TATA"
CCCGTATACCTTAAAGCCG-GTGTGGG-GGGAGCGTACGGTATTTAGGATCGGAATTCGGATCTGGGATAAAGG
CCCTTAATAGGG-TACGGGGGGGGTACGCTTCGGGGATT-----GGTGGGACCTTACCTCCATATAAAGG

AGTCTCGAAGGAGGGAAACATAGGACASTTCATAGGCCCGGAGAGGTGGGGGCAGCGCCGCGTGTCGCCGACGATTAG
AGTCTCGAAGGGGGGGAAGGGGGGACASTCGATAAGTCTGATAGGGGGGAGGGCGCAGC-----TTTTC

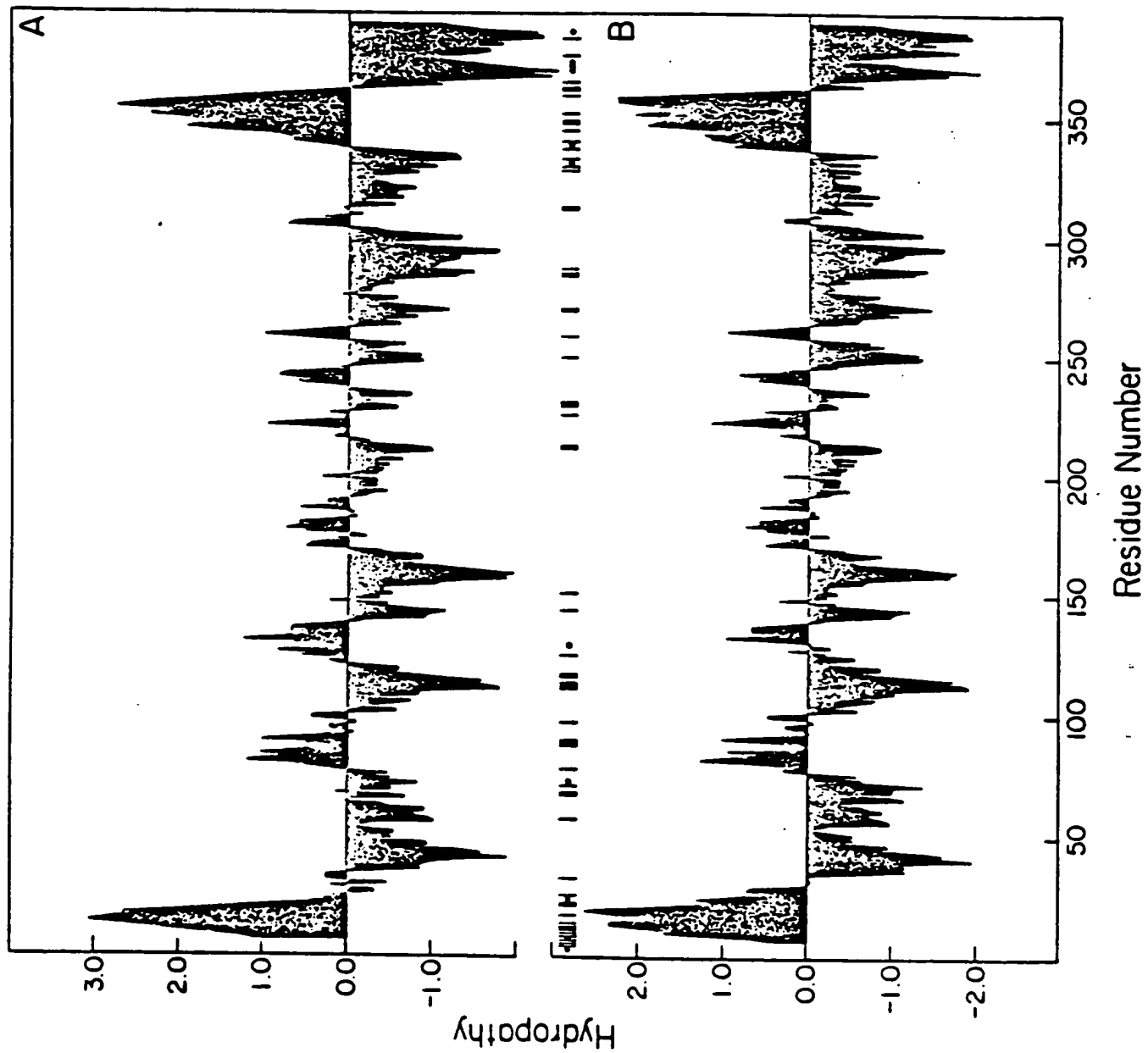
CCACCGCGGCCACAGCCACCTC--GACCGGCTTCGATCGCGGATATCGCGGGCGCGCTCGCTGCGAGGCGCTGGG
CCTGTGGCAGCCACAGCTTTTTCGCGACCG--TCCCTTTT

HelProGlvArSeRLeuGlnGlvLeuLa

ATCCTGGGCGCTATGGGTCTGGCGCACCGGGCTGGTTCCT
11eLeuGlyLeuTrpValCysAlaThrGlyLeuValArg

F I G U R E 1B

FIGURE 2



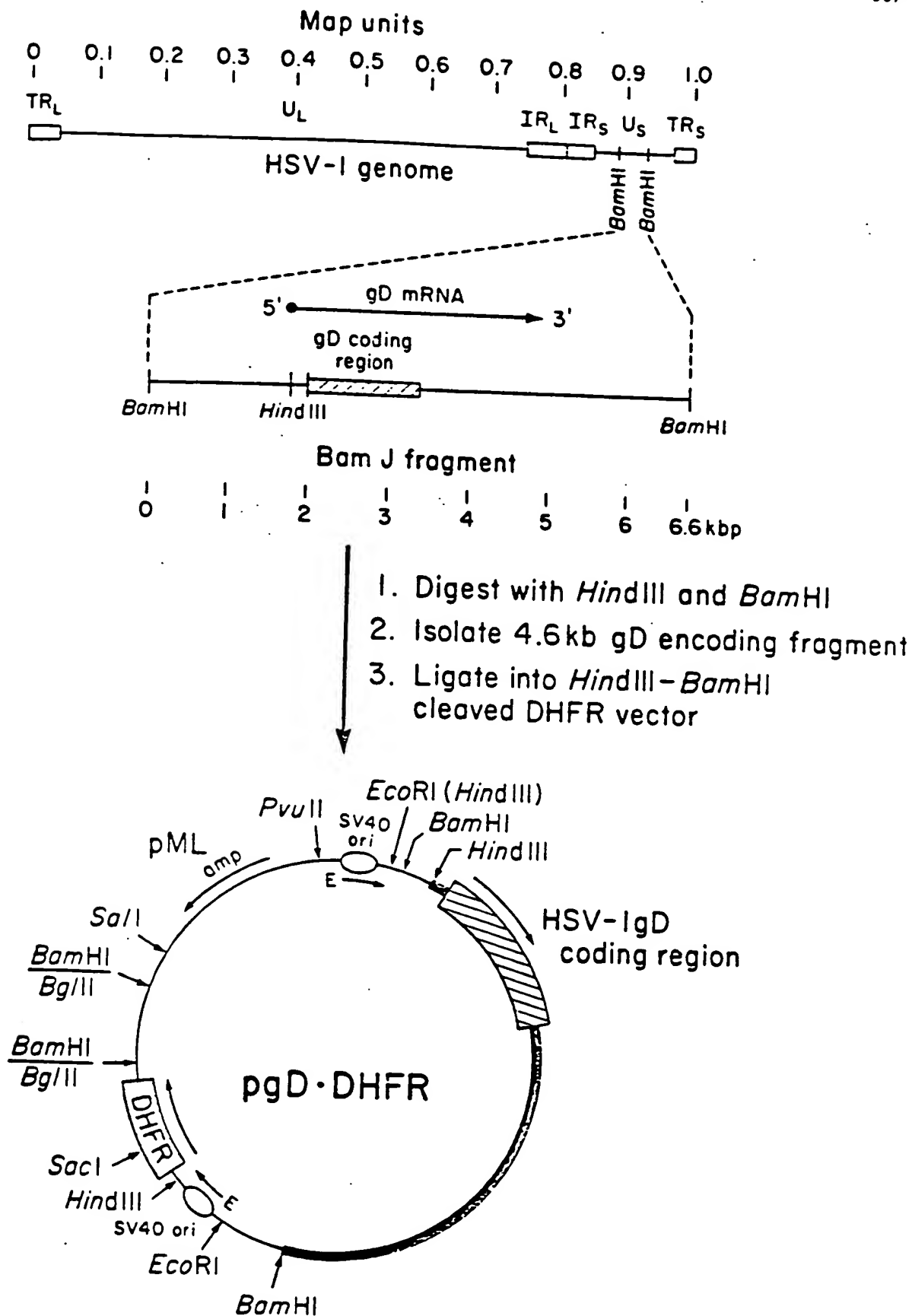


FIGURE 3

A

08/459141



B

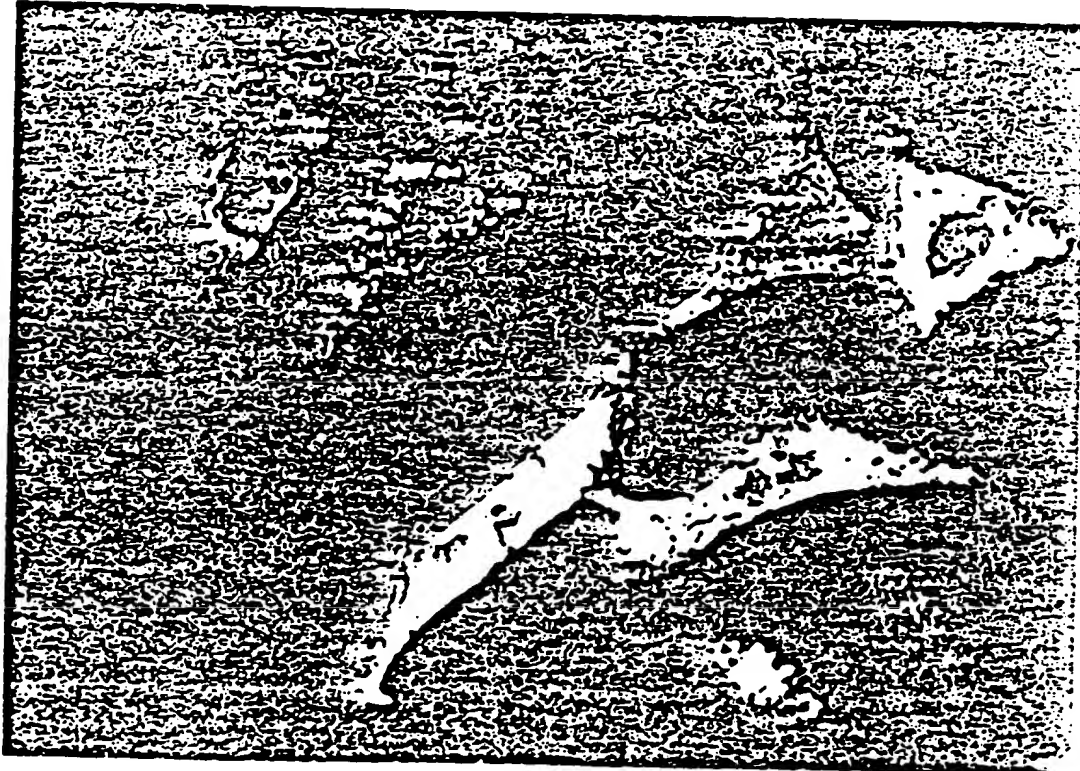


FIGURE 4

A

B

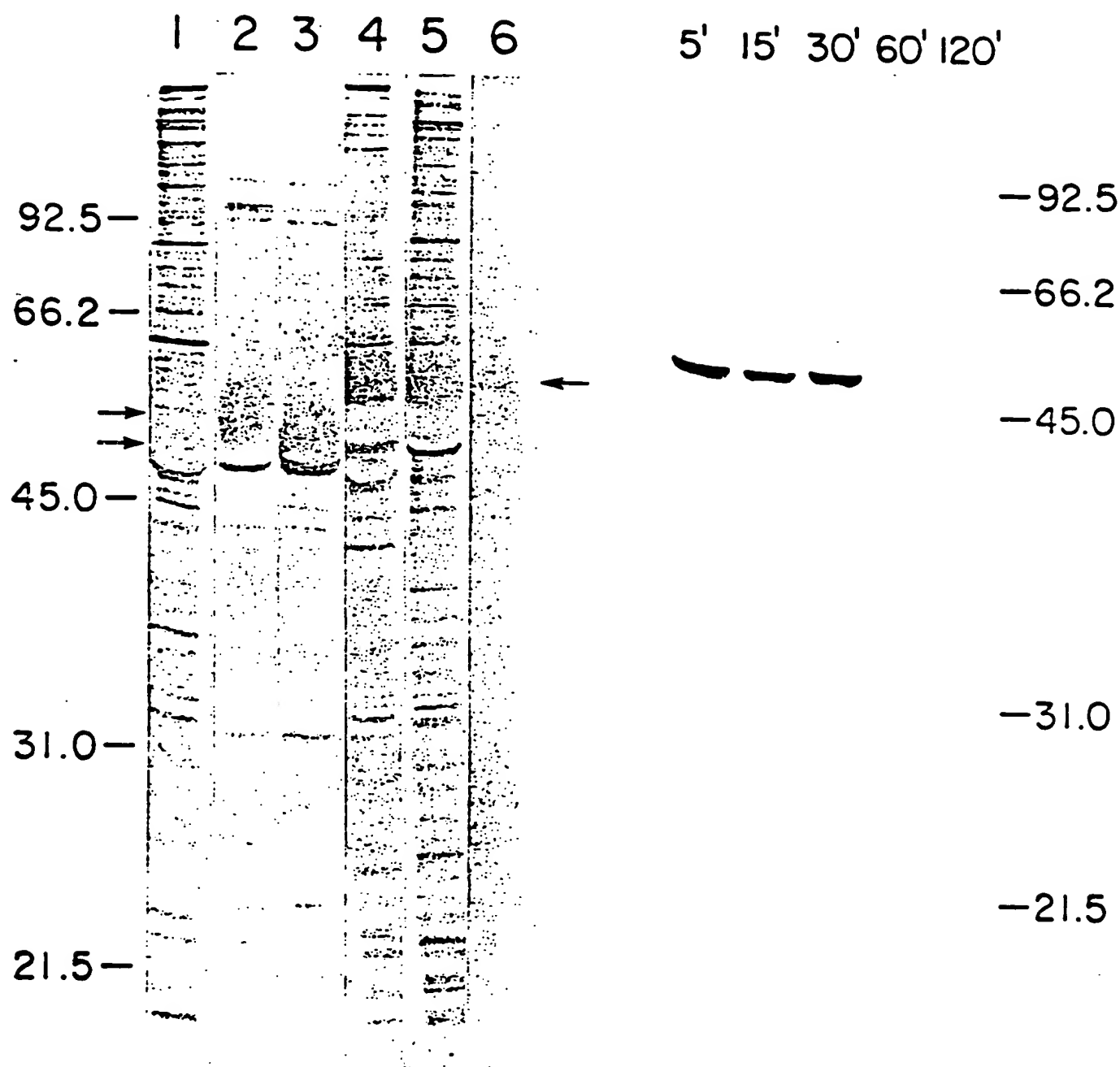


FIGURE 5

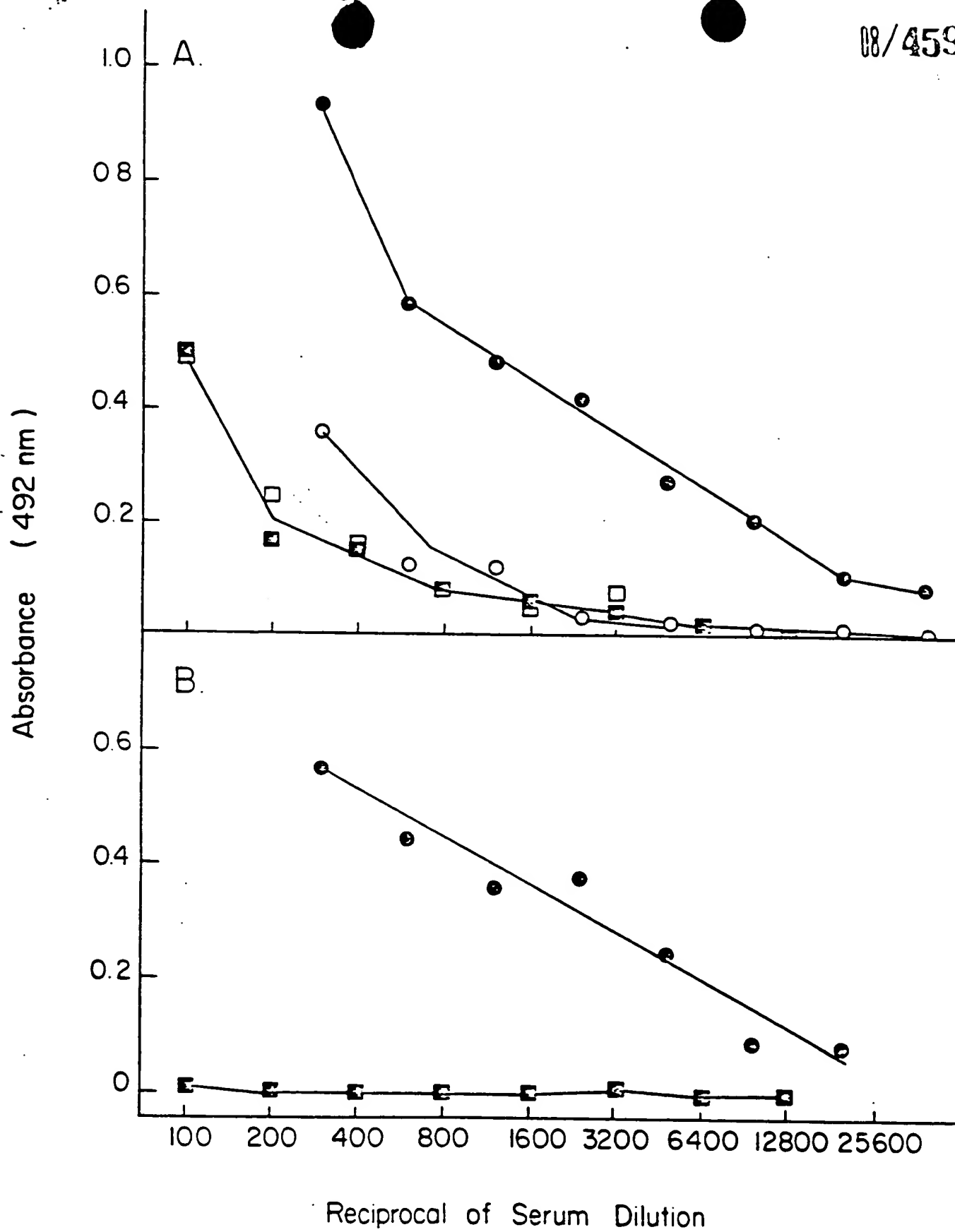


FIGURE 6

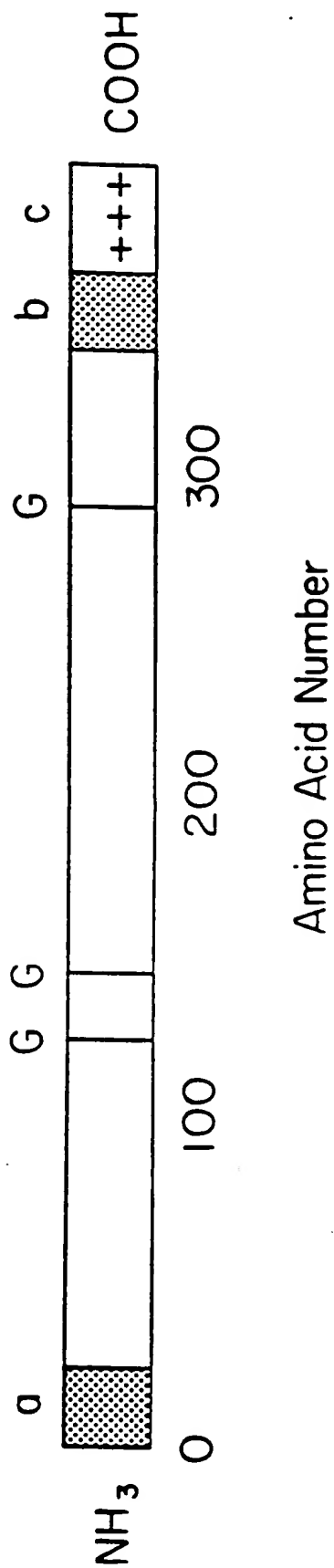


FIGURE 7

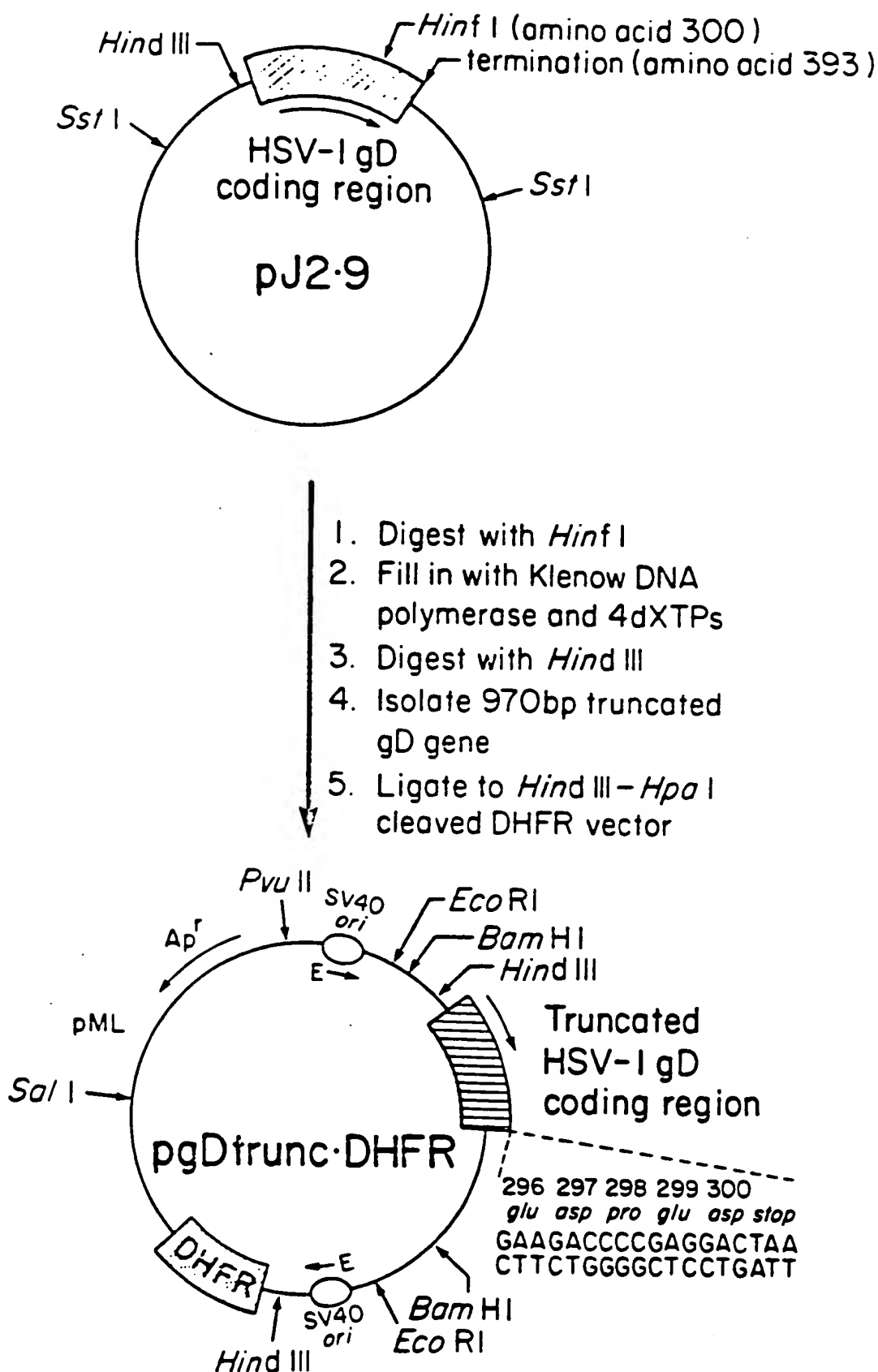
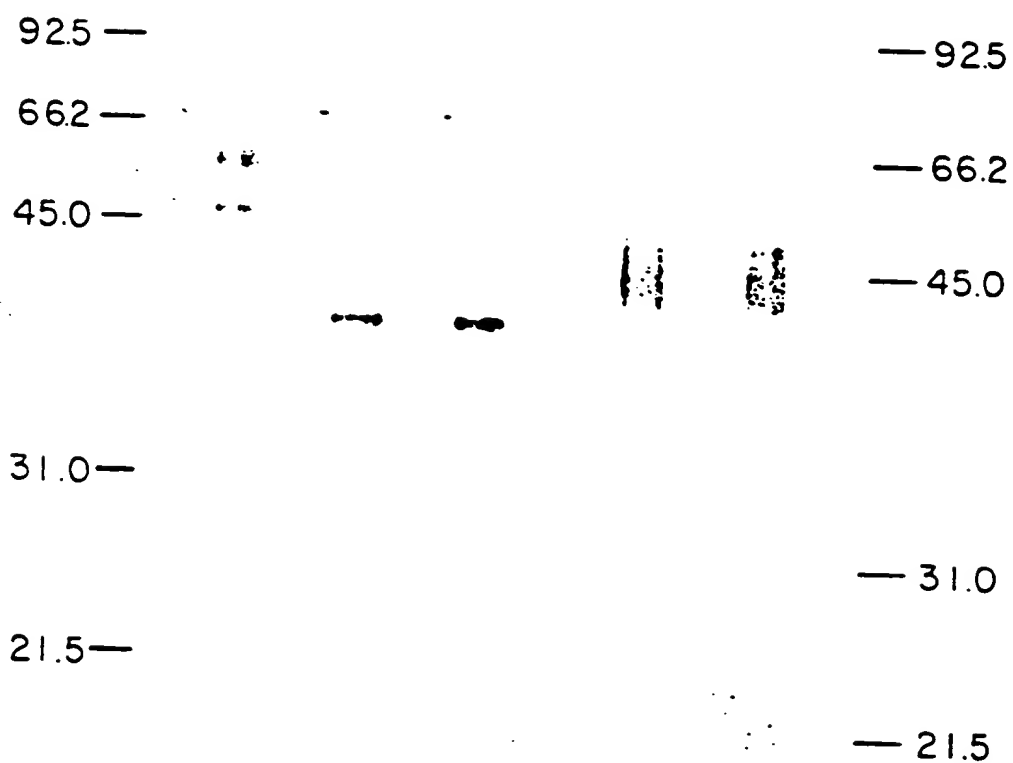


FIGURE 8



F I G U R E 9

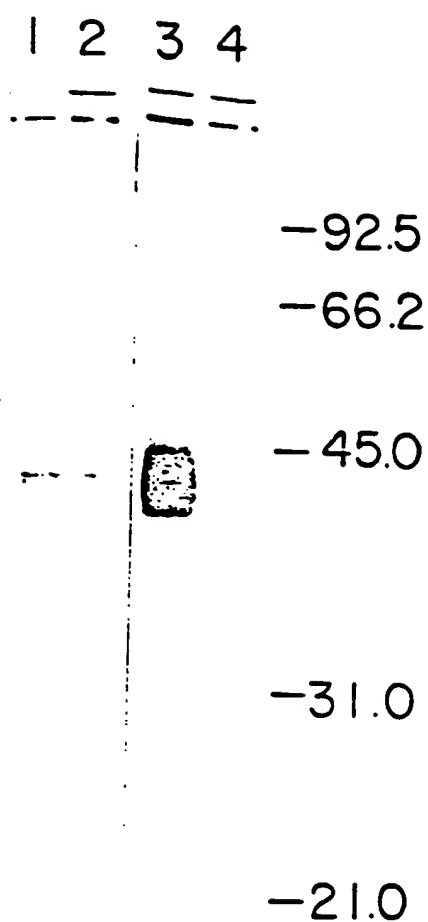


FIGURE 10

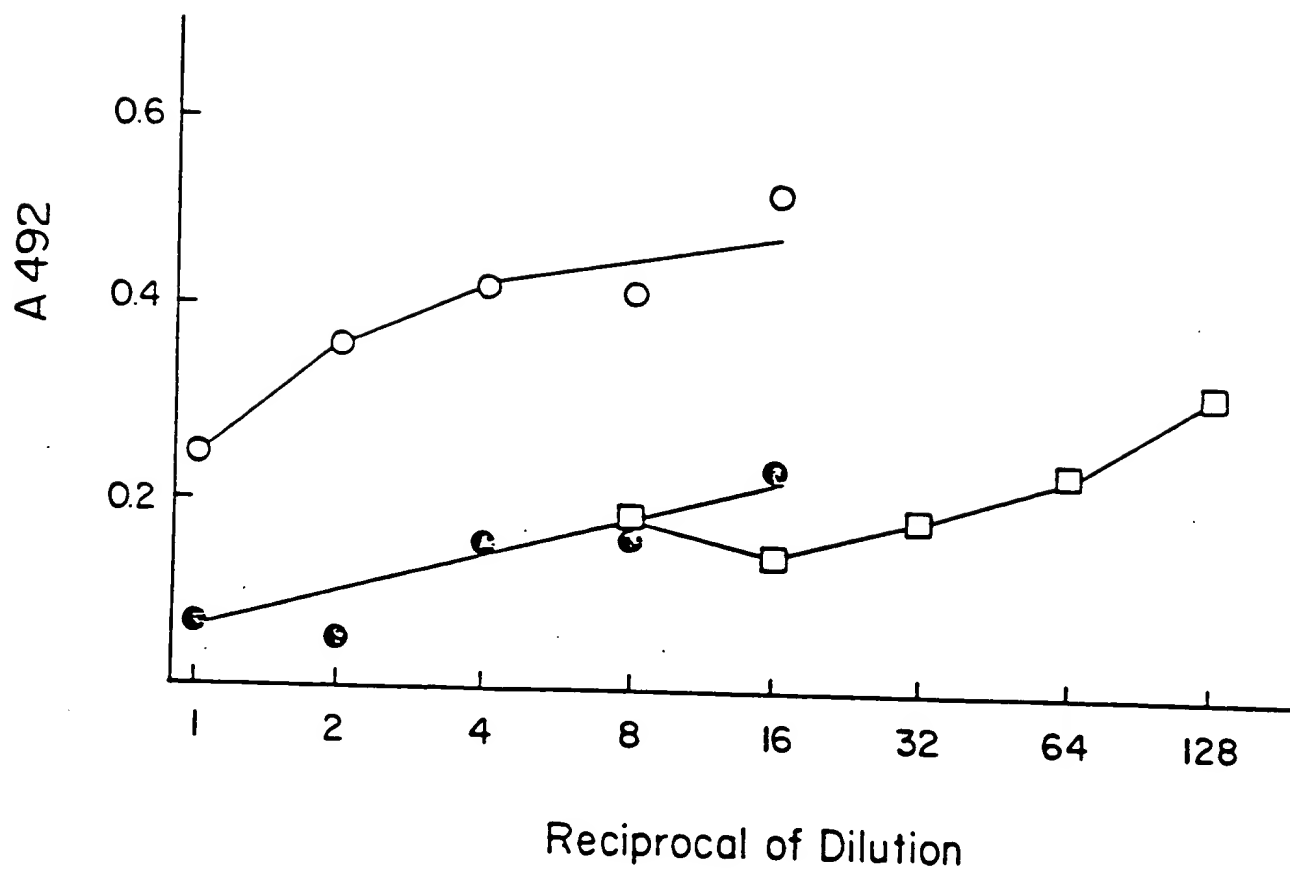


FIGURE 11

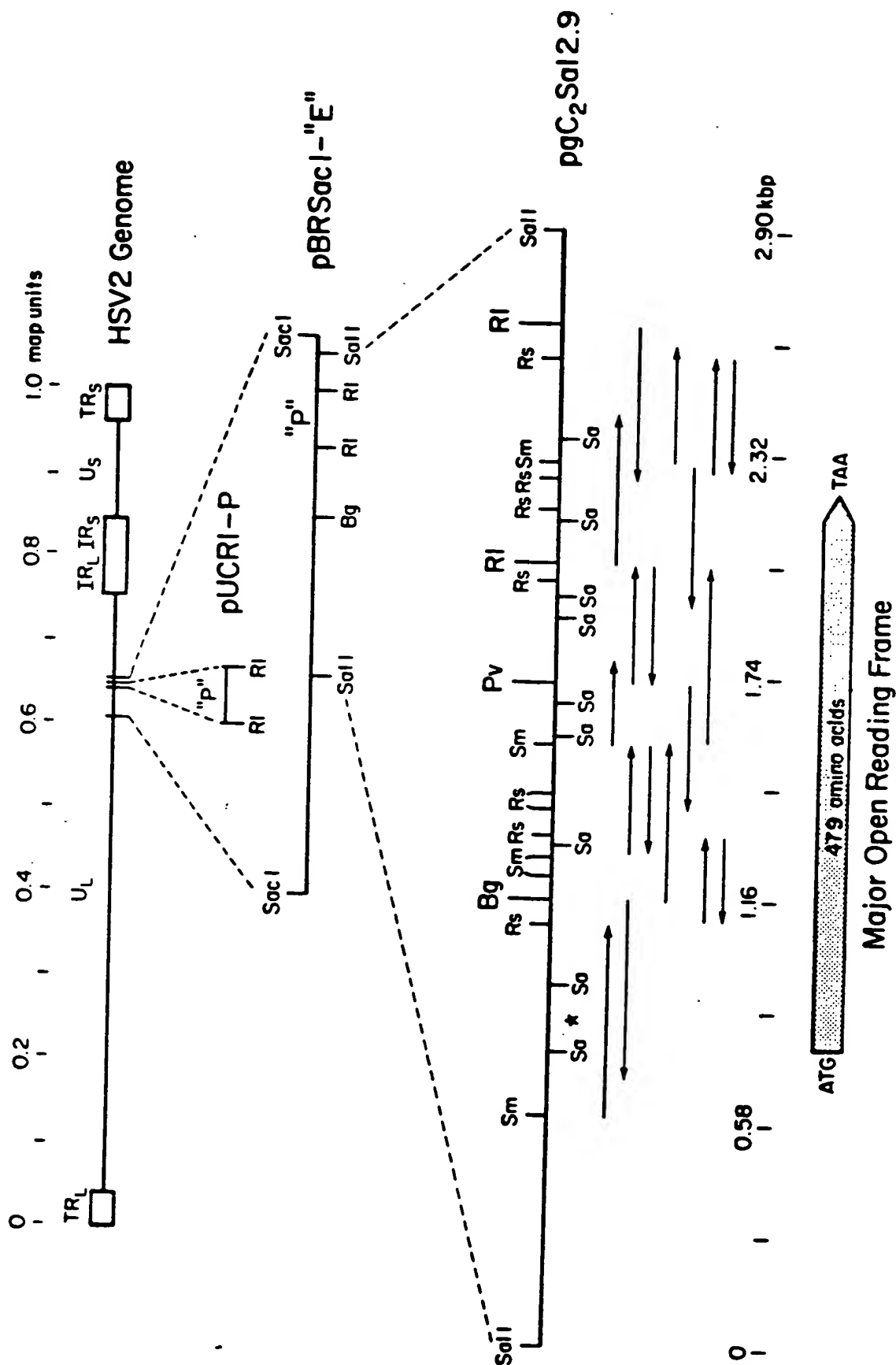


FIGURE 12

MSV-1	60	60
MSV-2	60	60
MSV-1	120	120
MSV-2	120	120
MSV-1	180	180
MSV-2	180	180
MSV-1	240	240
MSV-2	240	240
MSV-1	300	300
MSV-2	300	300
MSV-1	360	360
MSV-2	360	360
MSV-1	420	420
MSV-2	420	420
MSV-1	480	480
MSV-2	480	480
MSV-1	540	540
MSV-2	540	540
MSV-1	600	600
MSV-2	600	600
MSV-1	660	660
MSV-2	660	660
MSV-1	720	720
MSV-2	720	720
MSV-1	780	780
MSV-2	780	780
MSV-1	840	840
MSV-2	840	840
MSV-1	900	900
MSV-2	900	900
MSV-1	960	960
MSV-2	960	960
MSV-1	1020	1020
MSV-2	1020	1020
MSV-1	1080	1080
MSV-2	1080	1080
MSV-1	1140	1140
MSV-2	1140	1140
MSV-1	1200	1200
MSV-2	1200	1200
MSV-1	1260	1260
MSV-2	1260	1260

MSV-1	GACTT	1320
MSV-2	GACTCCCTGCTGCTTCTCTCGGCGCAACGCCACGCGCACGGCATCGGTGCTGCCCGGCCA	
MSV-1	ACCATCACCATGGAATTTGCGGCTCGGCATGCTGCTGACAGGCGCGCTGCTGCTCCCGAG	1380
MSV-2	ACCATTACCATGGAATTTACGGGCGACCATGCGGCTGCTGACAGGCGCGCTGCTGCTCCCGAG	
MSV-1	GGCGTGACGTTTGCTTCTGCTGGGGACGACCCCTACCGGCGGCTAAGTCGGCCGTT	1440
MSV-2	GGGGTGACGTTTGCTTCTGCTGGGGACGACTCTCTCGCGGCGGAGAGGTTGGCCGTC	
MSV-1	ACGGCCCAAGAGTCTGCTGACGACACCCCGGCTGCTGCTACGGTCCGGTCCACCTGCTCCATT	1500
MSV-2	GGCTGCGAGCATGCTGCGGGCGCCCCGCGACGCGACGATCGCTCCACCTGCTCGGGTC	
MSV-1	TCGTACGACTACAGCGAGTACATCTGCTGGTTGACCGGATATCGGCGCGGATTCCCGTT	1560
MSV-2	TCGTACGAGCAGACGAGTACATCTGCGGGCTGGCGGGATACCGGACGGAATTCGGTC	
MSV-1	CTAGAGCACCACGGGAGTCAACGACCCCCACCCAGGGAACCCACCGAGCGGACGGTGTATC	1620
MSV-2	CTAGAGCACCACGGGAGTCAACGACCCCCCGCGCGGGACCCACCGAGCGGACGGTGTATC	
MSV-1	GAGGCGATCGAGTGGGTGGGGATTGGAATCGGGGTTCTCGCGGCGGGGTTCTGGTCTGA	1680
MSV-2	CGGGCGGTGGAGGGGGCGGGGATCGGAGTGGCTGTCTTTGTCGCGGTGGTTCTGGCGGG	
MSV-1	ACGGCAATCGGTACGTCGTCGACATCACAGTCGCGGACGCTATCGCGGCTAACGC	1740
MSV-2	ACCGCGGTAGTGTACCTCAACCGCTCTCTCGGTGCTGCTATCGTGGCTGCGGTAACTC	
	MSV-1 gC, MSV-2 gF termination codons	
MSV-1	GAGACCCCCCGTTACCTTTTAAATATCTATATAGTTTGGTCCCCCTT---CTATCCG	1800
MSV-2	CGGGCGCGGGCGGGCGGGCT-TGCTTCTTTT-TCCACCCCTTCGTCGCCCGTACCTC	
MSV-1	CC-----CACCGCTGGGCGCTATAAGCC-GCCACCTCTCT	1860
MSV-2	ACCACCCCGACCCACCCCGCGCTCCCGCGGGCTTATAAGC-CGCGCACTGCG	
	TATA 2	
MSV-1	TTCCCTCAGGT---ATCCTTGGTC-GATCCCGAACGAGACACGGCTGGAG---CAAAA	1920
MSV-2	TTTTCCACCGGAAATCTCGGGCCGATCC-GAACGGCGACGCGCGGTGGGCTCCAAA	
MSV-1	CGCTCCCCCTGAGCC-GCTTCTTACCAACACACCGGATGCC-----TCT--G-----	1980
MSV-2	CGCTCGGGAAGAGAGCGCCCCGCGCGGAT-ATTCAAGCCGCGGTGGTGTATGCTTT	
	MSV-2 second open reading frame initiation codon	
MSV-1	-CGGGCATCGGAACAGCC-TACCGGCCCTGGGGCCCGGGACACCCCCCATCGGGGCTCG	2040
MSV-2	CGGTGCTTCGGGACCGGCTACCGAGCCCTCGCCCCGCGGCTCCCCCGCGGGGCTCG	
	730 bp MSV-1 mRNA initiation codon	
MSV-1	GCTCCCCGCGCGGCTTGGGTGGCGTGGGACCATCATCGGGGAGTTGTGATCATTTGC	2100
MSV-2	TGTTCCGGCGGTGGCTGGATCGGCGTGGAGCATGCTGCGGGCTTTGCGCTGCTGCG	
MSV-1	CGCGTTGGTCTCTGTCCTCTCGCGGCTCTGCGGGCACTTTCCCATGCGACAGCGGATG	2160
MSV-2	CGCGTTGGTCTCTGTAACCCCTCGGTCTCTGCGGGACTCTGCGGCGGACAGCGGCTG	
MSV-1	GCACGAGTTCAACTCTGGGTGCATATCTGGGATCCGACCCCATGGAGCAGGACAGGC	2220
MSV-2	GCAGGAATTAACGCGGGATGCTGCTGGGTGGGACCCACCCCTGCGAGCAGGACAGGC	
MSV-1	GGTCGGCGGCTGTAGCGCCCCGGCGACCTGATCCCCCGCGGGCTGCCAAACAGCTGGC	2280
MSV-2	GGTCGGCGGCTGACGCGCGCGGCCACCTTATCCCCCTGCGGGCGGCAAGCAGCTGGC	
MSV-1	CGCCGTCGCACGCGTCCAGTCGGCAAGATCTCTGGGCTACTGGTGGGTGAGCGGAGACGG	2340
MSV-2	CGCTCTGACACGCGTCCAGCGGAGAGATGCTGGGTTACTGGTGGGTGAACGGAGACGG	
MSV-1	CATTGGGGCCCGCTGCGGCTCTGCGACGGCTTGGCGGATTTGACGAGTTTTCGAGGA	2400
MSV-2	CATCGGAGCTGTCTGAGACTCTGCGACAGCTCAGTGGCATCGACGAGTTTTCGAGGA	
MSV-1	GCCCCCTTTCGCATATGCTACTATCCCCGCAAGTCCCGGGGGCTTTGTTCACTTTGTAAC	2460
MSV-2	GCTC	
MSV-1	TTCGACCCGCAACGCGCTGGGGCTGCCGTGA	2491

F I G U R E 13 (Part 2)

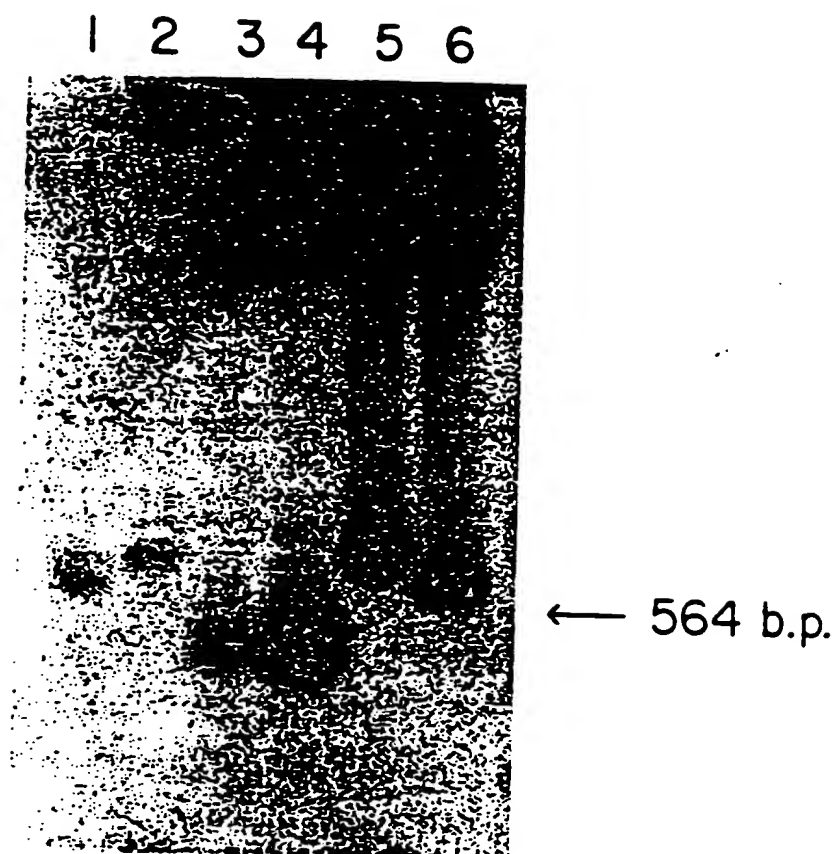


FIGURE 14

A.

```

      C      C      C CC CCN      C N      C CNC      C CC
MSV-1 gC 1  MAPGRVGLAVVLWGLLWLGAGVAGGSETASTGPTITAGAVTHASAPTS
MSV-2 gF 1  MALGRVGLAVGLWGLLWVGVVVLA--ASGRTITVGPRA--ASMAAPS

      NCNC N      N CNC CCNC
MSV-1 gC 50  GSPGSAASPEVTPSTPNPHVTHKTPTEPASPTTPKPTSTPKSPPT
MSV-2 gF 48  -----VPH--APRTTTPPPQPKATKS

      NCNC NN      C C CC      N N C
MSV-1 gC 101 STDPKPKNTTPAKSGRPTKPPG-PVHQRROPLARYGSRVQINQRFN
MSV-2 gF 71  KASTAKAPP--P-KTG-PPKTSSEPVQRNRHPLARYGSRVQINQRFN

      C C      CCCCNC CC N      CC CC      N      N
MSV-1 gC 150 STMEFRLQIWRYSMGSPPIAPAPDLEEVLTITAPPGLLYVDSAPNL
MSV-2 gF 117 STTESRLQIWRATATDAEIGTAPSLEEVWYSAPPGLLYVDSAPNR

      C      C N      C CN      C C CC      NC
MSV-1 gC 200 TDPHVLWAEAGAGPGAOPPLYSVTGLPTQRLTIGEVTPATOGMYLWAGR
MSV-2 gF 167 TDPHVLWAEAGAGPGASPRLYSVVGLGRQLTIEELTLETQGMYYWVWR

      C N NC      C      CC      C      C      N NC
MSV-1 gC 250 MDSPHEYGTVVRVRFPPSLTLQPHAVMEGQPFKATTAAYYPRNPVE
MSV-2 gF 217 TDRPSAYGTVVRVRFPPSLTIHPHAVLEGQPFKATTAATYYPGNRAE

      N      N C N C N      C C      C      C      C
MSV-1 gC 300 FDFEDDROVFNPGQIDTQTHEMPDGFSTVSTVSEAVGGQVPPRTFTD
MSV-2 gF 267 FVMFEDGRRVFDPAQINTQENPDGFSTVSTVSAVGGGQVPPRTFTD

      C      C      C C C      CCM C
MSV-1 gC 350 MTWHRDSYTFSSRNATGLALVLPRTITMEFGVRHVCYAGCYPEGVTFA
MSV-2 gF 317 LTWHRDSVSFSRNATGTASVLPRTITMEFTGDHVCYAGCYPEGVTFA

      C C C CC C NC C C      C CCC      N C
MSV-1 gC 400 WFLGDDPSPAAKSAVTAOESCHMPGLATVRSTLPISYDYSEYIQLTGYF
MSV-2 gF 367 WFLGDDSSPAEKVAVASQSCGRPGTATIRSTLPVSYEQEYIQLRAGYF

      N      N C CC      CC C C CC C
MSV-1 gC 450 AGIPVLEMHGSHOPPPRDPPTEROVIEAIEWVGIGVLAAGVLVVTAVY
MSV-2 gF 417 DGIPVLEMHGSHOPPPRDPPTEROVIRAVEGAGIGVAVLVAVLAGTAVY

      CCCC NN N NN
MSV-1 gC 500 VVRTSQSRORHRR
MSV-2 gF 467 LTHASSVTRRLR

```

B.

```

      C C C      C C CCCC
MSV-2 730bp ORF 1  MAFRASGPATQPLAPPPPARARYPAVAVIGVGAIVGAFALVALVLP
MSV-1 730bp ORF 1  -----MRARLPAAAVVGVGTIIGGVVIAALVLP

      C C C C      C C CC      C
MSV-2 730bp ORF 50  PRSSWGLPCDSGNOEFNAGCVAWDPTPVEHEQAVGGCSAPATLIPRAA
MSV-1 730bp ORF 31  SRASWALSPCDSGWHEFNLCISWDPTPMEHEQAVGGCSAPATLIPRAA

      C CC CC      N      CN      C C N C
MSV-2 730bp ORF 100 KHLAALTRYOARSSGYWVNGDGIRTCLRLVDSVSGIDGFCEEL
MSV-1 730bp ORF 81  KQLAARVQASARSSGYWVSGDGIRARLRLVDSVSGIDGFCEELPALRIC

MSV-1 730bp ORF 131 YTPRSPGGFVQFVTSTRNALGLP

```

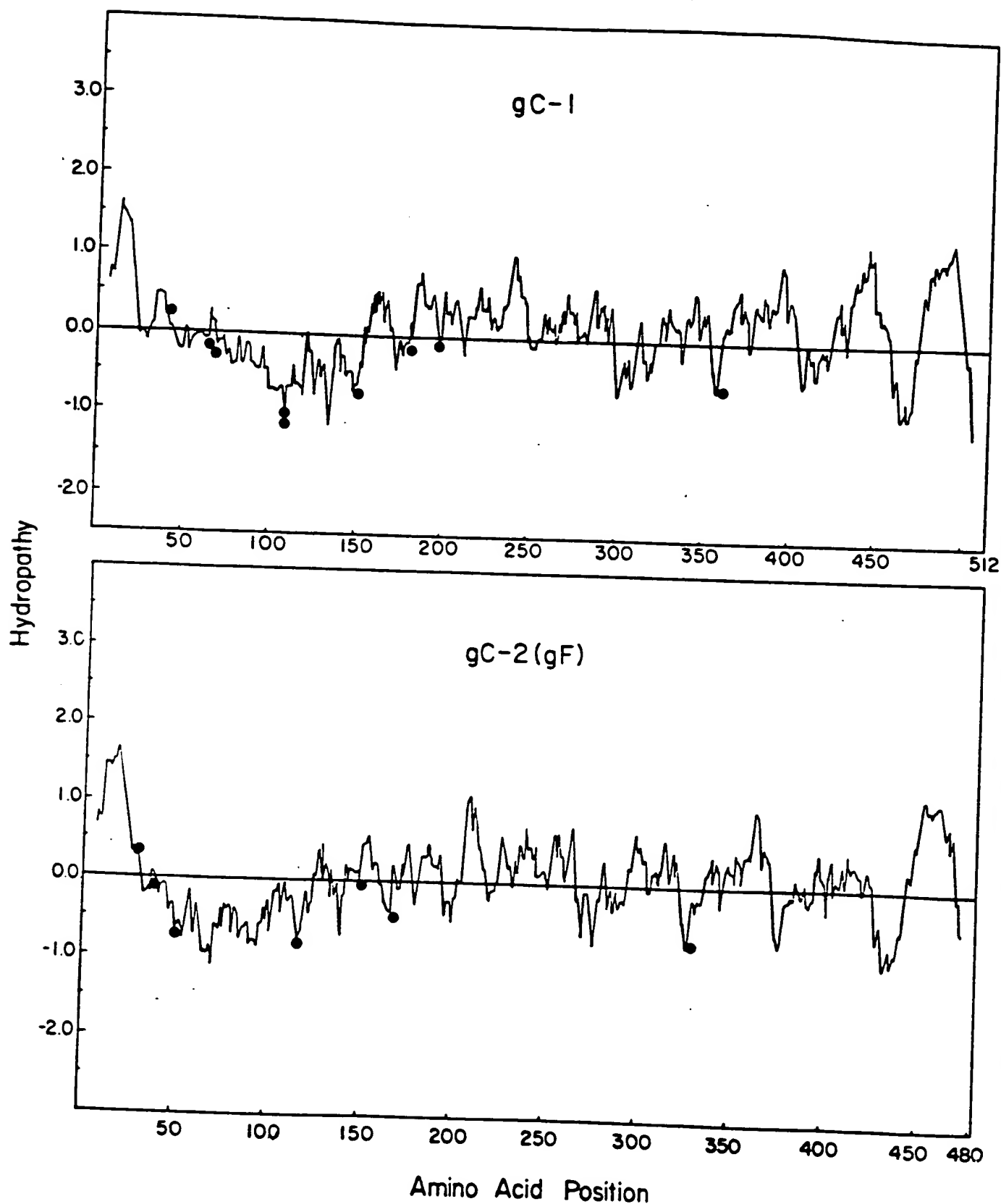


FIGURE 16

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